

**AMENDMENTS TO THE CLAIMS:**

The following listing of claims replaces all prior versions of the claims.

**LISTING OF CLAIMS:**

1-34. (canceled)

35. (currently amended) An *in vitro* diagnostic method for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

(a) providing a cell-free supernatant of a biological fluid comprising cells infected with HIV-1, and

~~(a)~~ (b) contacting said ~~biological sample~~ supernatant with one or more nucleic acid probes comprising

(i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIRILQQLLFHFRIGCRHSRIGVTQRRARNGASRS,

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIALVVAIIIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL, and

(iii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI

LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH  
PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC; and

(b) (c) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said ~~biological sample~~ supernatant.

36. (previously presented) The method according to claim 35, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

37. (currently amended) An *in vitro* diagnostic method for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

(a) providing a cell-free supernatant of a biological fluid comprising cells infected with HIV-1, and

(a) (b) contacting said ~~biological sample~~ supernatant with one or more nucleic acid probes comprising

(i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIIRILQQLLFHFRIGCRHSRIGVTQQRRARNGASRS and

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL; and

~~(b)~~ (c) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said ~~biological sample~~ supernatant.

38. (previously presented) The method according to claim 37, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

39. (currently amended) An *in vitro* diagnostic method for detecting the presence ~~or absence~~ of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

(a) providing a cell-free supernatant of a biological fluid comprising cells infected with HIV-1, and

~~(a)~~ (b) contacting said ~~biological sample~~ supernatant with one or more nucleic acid probes comprising

(i) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL and

(ii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAPAADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH  
PVSLHGMDPPEREVLEWRFD SRLAFHHVARELHPEYFKNC; and

(b) (c) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said ~~biological sample~~ supernatant.

40. (previously presented) The method according to claim 39, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

41. (previously presented) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

(a) a composition comprising one or more nucleic acid probes comprising

(i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIIRILQQLLFIFRIGCRHSRIGVTQQRARRNGASRS,

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL, and

(iii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAEPAADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLPVEPDKVEEANKGENTSLLH  
PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC;

- (b) reagents for detecting the hybrids; and
- (c) a biological reference sample lacking nucleic acid recognized by said nucleic acid probe composition.

42. (previously presented) The kit according to claim 41, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

43. (previously presented) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

- (a) a composition comprising one or more nucleic acid probes comprising
  - (i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIIRILQQLLFIFRIGCRHSRIGVTQQRRARNGASRS and

- (ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL;

- (b) reagents for detecting the hybrids; and
- (c) a biological reference sample lacking nucleic acid recognized by said nucleic acid probe composition.

44. (previously presented) The kit according to claim 43, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

45. (previously presented) An *in vitro* diagnostic kit for detecting the presence or absence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

(a) a composition comprising one or more nucleic acid probes comprising

(i) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL and

(ii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLH  
PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC;

(b) reagents for detecting the hybrids; and

(c) a biological reference sample lacking nucleic acid recognized by said nucleic acid probe composition.

46. (previously presented) The kit according to claim 45, wherein said probe is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, and a fluorescent label.

47. (new) An *in vitro* diagnostic method for detecting the presence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) in a biological sample comprising:

- (a) providing a cell-free supernatant of a biological fluid comprising cells infected with HIV-1, and
- (b) detecting HIV-1 nucleic acid present in said supernatant.

48. (new) The *in vitro* diagnostic method of claim 47, wherein the presence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) is detected by

- (a) contacting said supernatant with one or more nucleic acid probes comprising:

- (i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIIRILQQLLFHFRIGCRHSRIGVTQQRRARNGASRS,

- (ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL, and

- (iii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRRAPADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI

LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGWICYKLVPVEPDKVEEANKGENTSLLH  
PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC; and

(b) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said supernatant.

49. (new) The *in vitro* diagnostic method of claim 47, wherein the presence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) is detected by

(a) contacting said supernatant with one or more nucleic acid probes comprising:

(i) a nucleic acid of ORF-1 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MEQAPEDQGPQREPHNEWTLELLEELKNEAVRHFPRIWLHGLGQHIYETYGDT  
WAGVEAIIRILQQLLFHFRIGCRHSRIGVTQRRARNGASRS and

(ii) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIALVVAIIIAIVVWSIVIEYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL; and

(b) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said supernatant.

50. (new) The *in vitro* diagnostic method of claim 47, wherein the presence of nucleic acid of a Human Immunodeficiency Virus Type 1 (HIV-1) is detected by

(a) contacting said supernatant with one or more nucleic acid probes comprising:



(i) a nucleic acid of ORF-4 of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MQPIQIAIAALVVAIIIAIVVWSIVII EYRKILRQRKIDRLIDRLIERAEDSGNESEGEIS  
ALVEMGVEMGHHAPWDIDDL and

(ii) a nucleic acid of ORF-R of Human Immunodeficiency Virus Type 1 (HIV-1) encoding the amino acid sequence:

MGGKWSKSSVVGWPTVRERMRR AEP AADGVGAASRDLEKHGAITSSNTAAT  
NAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDI  
LDLWIYHTQGYFPDWQNYTPGPGVRYPLTFGW CYKLVPVEPDKVEEANKGENTSLLH  
PVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC; and

(b) detecting the formation of hybrids between said one or more nucleic acid probes and HIV-1 nucleic acid present in said supernatant.